

A STUDY OF THE INTERRUPTA-HARRISII GROUP
OF THE GENUS ARCTOCORIXA WITH
DESCRIPTIONS OF NEW SPECIES.
(HEMIPTERA-CORIXIDAE.)

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In 1825 Thomas Say described a large Corixid species from "Missouri" under the name *Corixa interrupta*. In 1878 Dr. P. R. Uhler, in a report upon the "Hemiptera-heteroptera in the collection of the late Thaddeus W. Harris," described another large Corixid under the name *Corixa harrisii*. These two species are about the same in size and general appearance, and, in the many collections I have examined, are hopelessly confused.

In 1913 Dr. James Francis Abbott, in the Washington University Studies, Vol. 1, No. 1, pp. 10-20, published a paper entitled, "The Variation of *Arctocorisa interrupta* (Say)." This was a report upon a study of 300 specimens consisting of 200 females and 100 males taken July 7, 1911, from a pool on Nonamesset Island, off the coast of Massachusetts. He found that the males fell readily into two series based upon the structure of the pala, the relative width of the interocular space and the pigmentation of the venter. One of these he called the *A. interrupta* type and the other the *A. harrisii* type. The females he was unable to arrange into two groups. His studies involved the measurement of various parts of the insects. From his inability to distinguish two types of females he concluded that "*C. harrisii* Uhler is a second (dimorphic) male form of *A. interrupta* (Say). The females are homogeneous and probably heterozygous for the two types." This conclusion of course would make *A. harrisii* (Uhl.) a synonym of *A. interrupta* (Say).

It has been my privilege to examine the identical material with which Dr. Abbott worked. The males were marked with red figures and arranged from 1 to 100. The females were marked with black figures and arranged from 1 to 200. I very shortly discovered that the color pattern, the nature of the surface of the pronotum and tegmina, and the shape of the vertex were distinctive marks which separated the *A. harrisii* (Uhl.) males from the *A. interrupta* (Say) males. I therefore separated the two sorts and found that there were 85 *A. harrisii* (Uhl.) and 15 *A. interrupta* (Say).

By these same characters the females were separated into two groups and when counted there were found to be 162 of the *A. harrisii* (Uhl.) type and 28 of the *A. interrupta* (Say).¹ While measurements may fail to show two kinds of females, the general facies enable the lot to be divided into: 85 males and 162 females of *A. harrisii* (Uhl.), and 15 males and 28 females of *A. interrupta* (Say). It is my belief that *A. harrisii* (Uhl.) is a valid species. I may add also that the claspers of the male genital bulbs are quite different.

In addition to the above there are two other described species of about the same size belonging to this group. One of these, *A. laevigata* Uhler, which was described from the far west, I have found in collections bearing New Jersey, Maryland, and Rhode Island locality labels. This is not in the least disquieting, since I have collected *A. edulis* Champ. in Kansas and Minnesota and have seen it from the east. The species was described from Mexico.

Among the large species of North American Corixidae which are to be assigned to the *A. interrupta* (Say) group are three undescribed species. These, as a rule, have been labeled *A. interrupta* (Say) and all of them are quite widely distributed. Indeed one of them which I have chosen to name *A. vulgaris* is our commonest large Corixid. The descriptions of the new species follow:

A. obliqua sp. n.

Size: Length 10 + mm. Width of head $3\frac{1}{2}$ mm. in male to $3\frac{3}{4}$ mm. in female.

Color: General color effect dark. Pronotum crossed by 9 or 10 pale bands, usually equal to or a little more slender than the dark bands. The pale lineations of the tegmina short, more or less wavy and irregular in arrangement; those at base of clavus, and more especially at its inner angle, broader than the others. The pattern of membrane a continuation of that of corium without demarcation.

Structure: The head is short, the interocular space at synthlipsis not more than $\frac{2}{3}$ the caudal margin of the eyes. The frontal depression on the face of the male concave, ovate, not attaining the eyes laterally. Pronotum with faint indication of a longitudinal median carina on anterior third. Surface of pronotum and tegmina rastrate. The pala of

¹ Ten were missing.

male elongate, sides parallel and distal end obliquely produced as shown in drawing. Plate IV, figure 4.

Comparative notes: This last character enables the male to be recognized without further examination. The color pattern and general appearance approaches *A. interrupta* (Say) from which most specimens of both sexes may readily be distinguished by the more broken and irregular pale lineations of that portion of the corium which lies caudad of the claval suture.

This new species is described from 218 specimens from Douglas County, Kansas. The writer also has specimens from Minnesota, Texas, Iowa, Oklahoma, New Jersey, New York, Illinois, and Missouri.

Holotype, allotype and some paratypes in University of Kansas collection. Paratypes in United States National Museum, University of Minnesota, Cornell University, Carnegie Museum and the following private collections: J. R. de la Torre-Bueno, H. M. Parshley, R. F. Hussey, Carl J. Drake and H. G. Barber.

A. lobata sp. n.

Size: Length 9.4 mm.; width 3 mm. across head.

Color: General color effect dark. Head, limbs and venter yellow. Pronotum crossed by about eight broad black bands. The tegmina with pattern that appears much as described for *A. obliqua* above. The membrane is more or less separated from the corium by the fusion of the pale lineations.

Structure: The frontal depression on the face of the male is less distinct than in the preceding species and appears to reach the eyes laterally. The pronotum is coarsely rastrate. The median longitudinal carina even less marked than in *A. obliqua*. The pala of male elongate, sides nearly parallel, a trifle broader near the tip which is rounded. The genital capsule of the male has a prominent lobe in front of the base of the right clasper which suggested the specific name proposed. See drawings on Plate IV, figures 5 and 6.

Described from eight specimens taken by the writer in July, 1921, at St. Paul, Minnesota, and two specimens from Long Island, New York.

A. vulgaris sp. n.

Size: Length 9 to 10 mm.; width of head of male 3—mm., of female 3.3 mm.

Color: General color effect dark. Darker than either of the species described above. The pale lineations slender and

more complete. The pronotum crossed by 9 or 10 pale bands. The tegmina transversely marked with slender slightly zig-zag lines; those at base of clavus only slightly broader than elsewhere. Head and limbs pale. Venter, of males at least, dark.

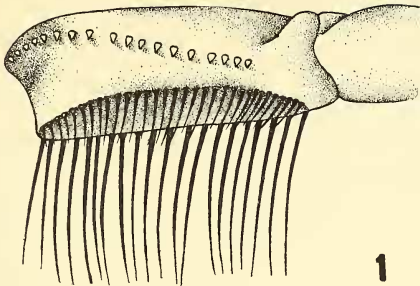
Structure: Head short, interocular space broad. Synthlipsis: width of eye :: 1:1.2. Frontal depression of face of male shallow, not attaining the eye laterally. Pronotum and tegmina rastrate.

Comparative notes: This species is one of the two most distinctively marked species of this series. The slender, pale cross-lines, the roughly rastrate surface and the wider interocular space mark it at once. The structural details of pala and genital bulb are shown on Plate IV, figures 1 and 2.

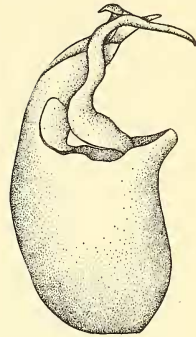
Described from a considerable series taken in Douglas County, Kansas. Besides these, the writer collected 190 specimens at St. Paul, Minnesota; 211 specimens at Douglas Lake, Michigan, and 20 specimens at Ithaca, N. Y. In addition, there are before him others from Minnesota taken by W. E. Hoffman, from Michigan by R. F. Hussey, from South Dakota by H. C. Severin, from White Plains, New York, by J. R. de la Torre-Bueno, and from Ohio by C. J. Drake.

Two of the three species described above are common and widely distributed. These three species may be separated one from the other by the following key:

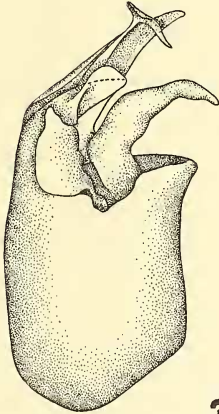
- A. Pale bands of corium beyond hemelytral suture forming transverse parallel series. Interocular space wider than usual *A. vulgaris* sp. new.
- AA. Pale bands of corium beyond hemelytral suture short, irregular in shape, giving a mottled rather than a cross-striped effect.
 - B. Pronotum strongly rastrate and crossed by about 8 black bands *A. lobata* sp. new.
 - BB. Pronotum more finely rastrate and crossed by 10 or more dark bands *A. obliqua* sp. new.



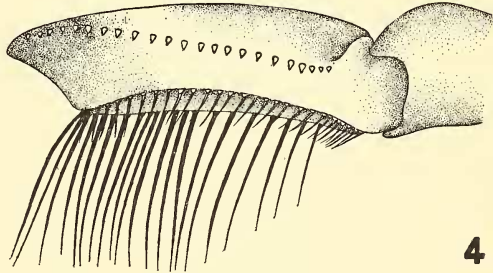
1



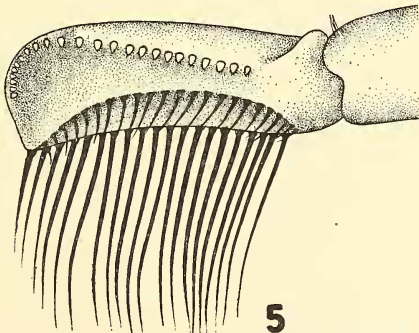
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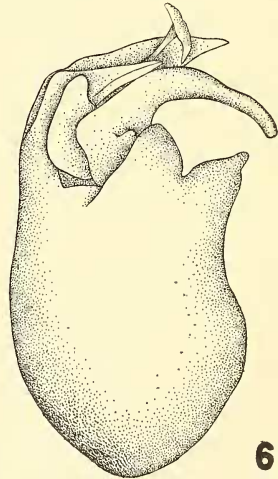
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4



5



6

PLATE I.

- 1. Pala of male of *Arctocorixa vulgaris* sp. n.
- 2. Genital bulb of *Arctocorixa vulgaris* sp. n.
- 3. Genital bulb of *Arctocorixa obliqua* sp. n.
- 4. Pala of male of *Arctocorixa obliqua* sp. n.
- 5. Pala of male of *Arctocorixa lobata* sp. n.
- 6. Genital bulb of *Arctocorixa lobata* sp. n.